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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/534,476	05/10/2005	Leonardus Hendricus Maria Sevat	NL 021175	6989

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EXAMINER

HSU, AMY R

ART UNIT	PAPER NUMBER
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2622

MAIL DATE	DELIVERY MODE
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01/10/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/534,476

Applicant(s)

SEVAT ET AL.

Examiner

Amy Hsu

Art Unit

2622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 May 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 12 and 13 is/are rejected.
- 7) ☒ Claim(s) 6-11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 5/10/05, 7/27/07.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5 rejected under 35 U.S.C. 103(a) as being unpatentable over Norman (US 6597362).

Regarding Claim 1, Norman teaches a device for parallel data processing (*Col 9 Line 1*), characterized in that the device comprises at least one matrix of processors arranged in rows and columns (*Col 9 Line 3 and Fig. 4B*), first additional data ports located outside the matrix (*Fig. 4B, the "matrix of processors" is the rows and columns of boxes marked "400", and reference number 418 "means for communication" to the left of one processor, 400, is a first additional data port located outside the matrix because it is not part of the matrix of 400's*) and second additional data ports located outside the matrix (*Fig. 4B, reference number 418, means for communication, above the cell is the second additional data port also outside the matrix of processors, 400s*), processors have a first processor data port which is connected with one of the first external data ports by means of a first at least straight connection (*Processors, 400, have a data port, Fig. 4A, reference number 420, connected to the first external data port to the left of 400 with a straight connection as seen on the left side area marked*

418 in Fig. 4A), processors have a second processor data port which is connected with one of the second external data ports by means of a second at least essentially straight connection (*the second processor data port, 420, is connected to the second external port, the top area marked 418 with a straight connection as depicted in Fig. 4A*), in which the second at least essentially straight connection is oriented at least essentially orthogonal to the first at least essentially straight connection (*Fig. 4A shows the arrow extending out the left of reference number 400 orthogonal to the arrow extending up out of 400*). The matrix taught by Norman in Fig. 4A-B fails to teach the rows are arranged in a stepwise fashion relative to one another, the columns are arranged in a stepwise fashion relative to one another. However, Norman teaches in another embodiment in Fig. 6B another configuration of processing cells in a matrix arranged stepwise in the column and row direction.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teaching of Norman in Fig. 4A-B by arranging the rows and columns in a stepwise fashion while still keeping the connections and features of Fig. 4. Fig. 6B illustrates that the arrangement in a stepwise fashion optimizes connections to maximum number of cells as compared to straight aligned column and row matrix which blocks easy connections to cells not directly adjacent to a cell. Therefore it would have been realized by one of ordinary skill in the art to modify the matrix of Fig. 4 to a stepwise fashion in order to increase the number of cells able to be connected to one cell.

Regarding Claim 2, Norman teaches a device as claimed in claim 1, characterized in that the device comprises a first data buffer for data storage which buffer has first buffer data ports of which at least one data port is connected with one of the first external data ports by means of an at least essentially straight third connection which is a continuation of the first connection (*Fig. 4A reference number 416 is a memory which acts as a buffer data port to store data which is connected to the first external data port, the left side marked 418 with a third connection, the arrow between 420 and 416, which is a continuation of the first connection, the arrow extending left out of reference number 420*).

Regarding Claim 3, Norman teaches a device as claimed in claim 2, characterized in that the first data buffer is split up into two physically separated parts of which a first part is positioned close to the first row of processors in the processor matrix and a second part is positioned close to the last row of processors in the processor matrix (*Fig. 4B, the upper left unit 400 comprises the first data buffer, reference number 416 within 400 which as seen in Fig. 4A is split into many parts. The left side is one part that is close to the first row, the left row of Fig. 4B, and the right side is close to the last row, the right most row of Fig. 4B*).

Regarding Claim 4, Norman teaches a device as claimed in claim 1, characterized in that the device comprises a second data buffer for data storage which has second buffer data ports (*Fig. 4B, the middle column top row unit marked 400 is*

comprised of a second data buffer, 400 includes another 416 buffer), of which buffer data ports at least one is connected with one of the second external data ports by means of a fourth at least essentially straight connection which is a continuation of the second connection (The second unit 400, the top middle 400 of Fig. 4B, described above contains what is pictured in Fig. 4A which has a fourth connection to the second external data port, the arrow between 416 and 420 within the second unit 400).

Regarding Claim 5, Norman teaches a device as claimed in claim 4, characterized in that the second data buffer is split up into two physically separated parts of which a first part is positioned close to the first column of processors in the processor matrix and a second part is positioned close to the last column of processors in the processor matrix (*same rational as described with Claim 3*).

3. Claims 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Norman (US 6597362) in view of Kaplinsky et al. (US 7202894)

Regarding Claim 12, Norman fails to teach the data processing device as applied to a camera system.

Kaplinsky illustrates the well known camera system comprising a sensor matrix built up from rows and columns for converting incident electromagnetic radiation into pixel signals, means for converting pixel signals into data and a processing device (*Fig. 5*).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teaching of Norman to be applied to a camera's processing unit because an image sensor consists of an array each containing color information which would be optimally processed in parallel using the parallel data processing system taught by Norman.

Regarding Claim 13, Kaplinsky further teaches the well known camera system with color filter array (*Col 4 Lines 1-2*) where information from the color filter array is processed by the device's processing system. It would have been obvious to combine for the same reason as Claim 12.

Allowable Subject Matter

4. Claims 6-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Norman (US 6636986) teaches a data processing system containing a monolithic network of cells.

Norman (US 6038382) teaches a data processing system which overcomes the

chip size limit and off chip connection bottlenecks.

Redford (US 6931518) teaches a method of determining whether datapaths executing in a computer program should execute conditional processing.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amy Hsu whose telephone number is 571-270-3012. The examiner can normally be reached on M-F 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye can be reached on 571-272-7372. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Amy Hsu
Examiner
Art Unit 2622

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ARH 1/6/08

A handwritten signature in black ink, appearing to read 'Lin Ye', with a stylized, flowing script.

LIN YE
SUPERVISORY PATENT EXAMINER